

In the claims:

1. (currently amended) A method of producing a screen using digital imaging, for use in a screen printing process, said method comprising the steps of:

    providing digital image information from a computer system;

    providing an image-ready printing blank comprised of a screen (28) coated with a photosensitive coating (38) that permits aqueous-based inkjet ink (46) to be deposited evenly on its surface and remain in liquid condition;

    printing said digital image information in UV-blocking aqueous-based inkjet ink (46) on said photosensitive coating (38) with an ink-jet printer (44), forming an image structure having exposed and unexposed areas of said photosensitive coating;

    flood-curing said photosensitive coating (38) having said formed image structure with UV light such that said exposed areas of said photosensitive coating (38) are cured while said unexposed areas of said photosensitive coating (38) are blocked from UV curing by said UV-blocking ink (44); and

    washing said photosensitive coating (38) so that said UV-blocking ink (44) and said unexposed image structure areas are removed,

    such that the remaining cured areas of said photosensitive coating (38) form a mask on said screen (28) for use in the screen printing process.

2. (original) The method of claim 1 further comprising the step of flood-curing said photosensitive coating with UV radiation after said washing step.

3. (original) A method of producing a screen print using digital imaging, said method comprising the steps of:

producing a digitally imaged screen in accordance with the method of claim 1, and

using said digitally imaged screen in a screen printing process.

4. (original) The method of claim 1 wherein said ink-jet printer is a flat-bed imaging system.

5. (original) The method of claim 1 wherein said ink-jet printer is part of a generic impulse system.

6. (original) The method of claim 1 wherein said ink-jet printer is part of a continuous ink-jet system.

7. (original) The method of claim 1 wherein said wash is an aqueous alkali solution.

8. (original) The wash of claim 7 wherein said wash comprises aqueous sodium carbonate.

9. (original) The wash of claim 7 wherein said wash comprises less than approximately 20% organic solvents.

10. (original) A screen printing blank usable in a screen printing process, said printing blank comprising:

an image-ready printing blank comprised of a screen (28) coated with a photosensitive coating (38) that permits aqueous-based inkjet ink (46) to be deposited evenly on its surface and remain in liquid condition.

11. (original) The printing blank of claim 10 wherein said photosensitive coating comprises wetting agents.

12. (original) The printing blank of claim 10 wherein said photosensitive coating is between approximately 10 and 60 microns in thickness.
13. (original) The printing blank of claim 10 wherein said photosensitive coating is approximately 20 microns in thickness.
14. (original) The printing blank of claim 10 wherein said photosensitive coating comprises UV-curable resins, photoinitiators, synergists and binder resins.
15. (original) The printing blank of claim 14 wherein said UV-curable resins are present as between approximately 35%-75% by weight of said photosensitive coating.
16. (original) The printing blank of claim 14 wherein said photoinitiators and synergists are present as up to approximately 10% of the weight of said UV-curable resins.
17. (original) The printing blank of claim 14 wherein said binder resins are present as approximately 10%-50% by weight of said photosensitive coating.
18. (original) The printing blank of claim 14 wherein said binder resins are soluble in both aqueous and non-aqueous solvents.
19. (original) The printing blank of claim 10 wherein said photosensitive coating comprises at least one of dyes and pigments which are added to aid visual examination of said coating.

20. (original) The printing blank of claim 14 wherein said binder resins include at least one of novalak, styrene maleic anhydride copolymers, polyvinyl methyl ether/maleic anhydride copolymer and its esters, hydroxy propyl cellulose and esterified rosin-maleic esters, and maleic resins with acid values of at least 50.
21. (original) The printing blank of claim 10 wherein said ink remains wet during the imaging process and is not absorbed into said photosensitive coating.
22. (original) The printing blank of claim 10 wherein said ink is comprised of carbon black.
23. (original) The printing blank of claim 10 wherein said ink is comprised of a UV absorbing pigment or dye.